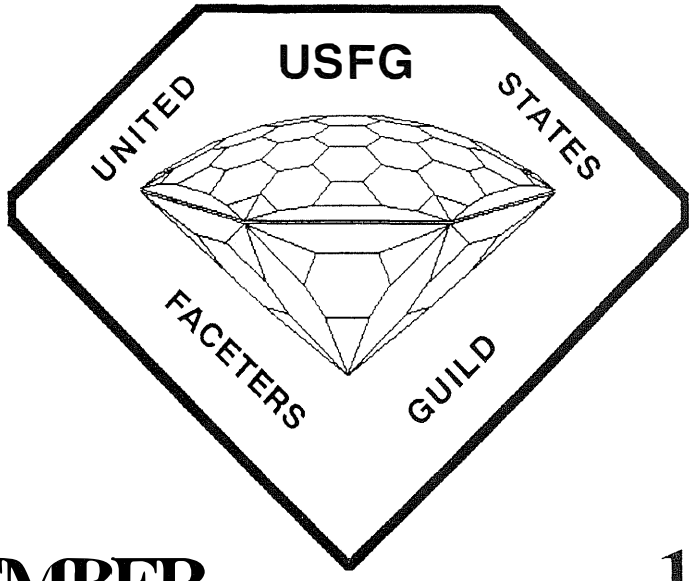
USFG NEWSLETTER



DECEMBER **1993**

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Adressee

Vol. 3 No. 4

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ELECTION RESULTS

The results have been tallied. The slate of officers for next year will be as on the recent ballot. The amendments to our Constitution all passed, and we have the new Constitution for you in this newsletter. It's still not perfect, but it is better.

Our new Membership Chairman is Jean Marr, and as soon as this year ends we will start a mailing campaign for new members. I will be helping her out with my list of correspondents. If anyone has a list of members of their local guild, please send it to Jean Marr, so we can contact them individually. Jean's address is:
PO Box 1815, Kernersville, NC 27285

The vote for the dues amount was a tie between $15 and $20, and in the absence of any written procedure for settling such an occurance, we had to flip a coin--the $15 amount won out. It will apply beginning January 1, 1994. You can mail in your dues for next year any time now. Be sure to make out your check for #15. to Lillian Hettich. See address in left column. If your dues don't arrive by March 1st, 1994, you won't receive the newsletter.

Thank You, Alston Lundgren

For the generous donation of $100. to the USFG Guild fund. We will make good use of it. Our officers do not buy themselfes coffee and donuts at meetings out ot the general funds as some guilds do. In fact, we have a hard time just getting together to have a meeting.

Seasons Greetings

ALEX WOLKONSKI'S DESIGNS

FVS

I have nearly all of Alex's 28 designs computed now. As soon as I finish I will send him a set for his approval. His designs are at present all on the European size sheets--8 1/4 by 11 5/8--and Alex has managed to use the whole sheet top to bottom, so without compressing, it won't go on our sheets. If that were the only problem I would just compress them, but most have not been computed before and there are discrepancies--things that need fixing. This is always true when a design is first computed. I've been through it myself with my first set of Star Cuts. So it will not be until our March 94 issue that I can announce that they are available. They should be ready by then.

Our Newest Member

Ralph V. Mathewson, 1127 1/2 Linden Ave., Lewiston, ID 83501 208--746-3814

Ralph cuts on a Facetron, gives lessons, and his wife sells Facetron machines. Welcome to USFG, Ralph. Good luck in the Australian competition.

We now have 29 members, and a financial balance of $1164.58. We are in good shape except for unfilled offices. In 1994 I predict you will see at least a doubling of our membership. The membership drive will start immediately after New Years. Personal invitations to join will go out to faceters across the U.S. and to our friends in Canada and overseas.

DUES

Send your dues for $15. to Lillian Hettich for 1994. In times of inflating prices it's nice to know that some things are more reasonable that before.

Canadians-- $16. **Overseas-- $19.**

I'd just like to make this note
To those of you who didn't vote.
Since 15 and 20 were in a tie,
We flipped a coin and checked its lie.
But the dues amount on future checks
Was yours to set by a single "X".

--- FVS---

Faceting Tip -- from OFF THE DOP, OCT. '93 reprinted courtesy of MEET POINTS.

LINDE A, OLD OR NEW --

It turns out that "true blue" Linde A isn't the same as the regular alumina powders presently on the market despite what the manufactureres might claim to the contrary. The real McCoy, once produced by the Union Carbide Co., does a much better job on things like large tables on London Blue Topaz. Cliff Jackson and Ed Romack of the Intermountain Faceters Guild found some Linde A pruchased several years ago and advise that any existing old stock of the real thing be carefully saved for those times when the "new" stuff just won't work.

SOFT STONES & WAX LAPS

By Cliff Jackson

(from OFF THE DOP, DEC. '92 via the TFG Newsletter, July, 1993)

Over the last 25 years I have polished soft stones on a number of different laps including wax, pitch, typemetal, tin, lead, babbit, various vinyls and plastics etc. They have all worked to some degree but I am now of the opinion that wax is by far the most versatile and is well ahead of anything else when it comes to polishing the soft materials. I use three laps: hard, a mixture of carnuba and hard green carving wax; medium, a mixture of blue carving wax and parafin; and soft, pure parafin. Contrary to what some say, wax laps do not work well unless they are scored. I use a commercial scoring tool.

What kind of polish? Wigh rare exceptions I use either Linde A or diamond bort. The Linde A is used as a slurry with purified water and Sunlight dishwashing liquid. Sometimes more polish is used, sometimes less. Very slow speed is best and pressure is determined by trial.

Getting diamond to stay on a wax lap is a trick. Score the lap and evenly sprinkle on the diamond dust. The bond is then achieved by applying several drops of lighter fluid on a small area. Using your finger, in a circular motion, mix the fluid and diamond into a slurry on the lap; keep stirring until the surface is dry. Repeat all around the lap and then let it stand for 10 to 15 minutes. I suggest you start with 8,000 grit as this works well on most materials. (end)

STEP-CUT CROWNS -- By Fred Van Sant

Nearly every design can be cut using a step-cut crown instead of the crown given on the design sheet. Some designers give a step-cut crown as an alternative. But many cutters, myself included, prefer to just use their own preferred angles and degrees between steps when they do a step crown. For this article the steps are equal-width, which means they all appear equal in width when looking directly at each step.

The average number of steps is three. For small stones you can use only two steps, and for large stones you can cut four steps. All this is presuming that you are going to have a normal table.

The average table size (round or square stones) is between 50% and 60% of the stone width. T/W=(.5 to .6). The average is .55, or 55%.

The average crown height is between 12% and 20% of the stone width. C/W=(.12 to .20). The average is .16, or 16%.

The average number of degrees between steps is from 5 to 10.

Problem: You are starting to cut a step crown; at what angle should you cut the first step? You should first decide your crown height(C/W). That depends on how much material you have and the stone's color. After you decide on the height, or C/W, you must decide on how big you want the table to be. Once these two decisions have been made, go to the table below to find what the BASE ANGLE is. The Base Angle is that angle which you would use if you were going to cut a single facet, extending from girdle to table, as in a Single-Cut. On a three-step crown your Main--the middle step--will have the same angle as the Base Angle. Now you must make one more decision--how many degrees between steps? Let's say you want 8. Answer: Your first step should be cut at the Base Angle plus 8 degrees.

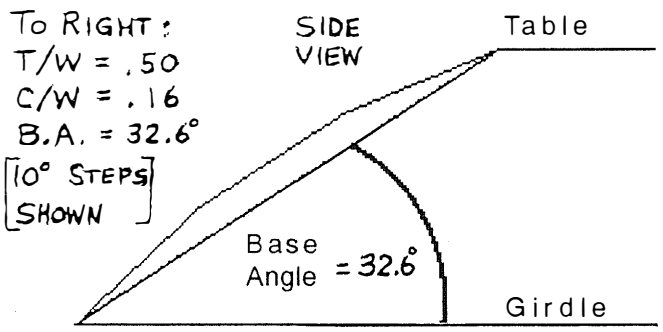
Let's do an example. Your stone is 12 millimeters wide. You want a crown height of .16, or 1.92 mm. You want a 55% table, 3 steps, and 8 degrees between steps. Going to the table below, you find where .16 (C/W) and .55 (T/W) cross, and read 35.4 degrees for the Base Angle, which is also your middle step, or main, angle. Your three steps will be cut at 43.4°, 35.4°, and 27.4°. If you use only two steps 8 degrees apart, you will cut 4 degrees above the Base Angle and 4 degrees below the Base Angle, so your two steps will be at 39.4° and 31.4° (35.4 +4 and 35.4 -4).

BASE ANGLE FOR STEP-CUT CROWNS--EQUAL-WIDTH STEPS

C/W \ T/W	.50	.51	.52	.53	.54	.55	.56	.57	.58	.59	.60
.22	41.3	41.9	42.5	43.1	43.7	44.4	45.0	45.7	46.3	47.0	47.7
.21	40.0	40.6	41.2	41.8	42.4	43.0	43.7	44.3	45.0	45.7	46.4
.20	38.7	39.2	39.8	40.4	41.0	41.6	42.3	42.9	43.6	44.3	45.0
.19	37.2	37.8	38.4	39.0	39.6	40.2	40.8	41.5	42.1	42.8	43.5
.18	35.8	36.3	36.9	37.5	38.0	38.7	39.3	39.9	40.6	41.3	42.0
.17	34.2	34.8	35.3	35.9	36.5	37.1	37.7	38.3	39.0	39.7	40.4
.16	32.6	33.1	33.7	34.2	34.8	35.4	36.0	36.6	37.3	38.0	38.7
.15	31.0	31.5	32.0	32.6	33.1	33.7	34.3	34.9	35.5	36.2	36.9
.14	29.2	29.7	30.3	30.8	31.3	31.9	32.5	33.1	33.7	34.3	35.0
.13	27.5	28.0	28.4	29.0	29.5	30.0	30.6	31.2	31.8	32.4	33.0
.12	25.6	26.1	26.6	27.1	27.6	28.1	28.6	29.2	29.7	30.3	31.0
.11	23.7	24.2	24.6	25.1	25.6	26.1	26.6	27.1	27.6	28.2	28.8
.10	21.8	22.2	22.6	23.0	23.5	24.0	24.4	24.9	25.5	26.0	26.6

NOTE: YOU MUST MEASURE T AND W ALONG THE SAME LINE ON THE STONE.

Notes on Step-Cut Crowns:
We could have left the subject at this point, but there are other questions. After the first step has been cut around the stone, how do you know where to make the second, or middle step? Of course if there are only two steps this is no problem. If the table is cut to the planned height, you cut the second step so as to make the width of table planned. But this will work also on a three-step crown. The only difference is that with a three-step the angles are different, and you cut the main, or middle, step last as an additional step. You simply cut it until all three steps are the same size. I hope this information gives you something more definite to go by than just seat-of-pants approximation. -- FVS



SELLING YOUR PRODUCT

(On the Sales of Cut Gemstone Output)
By M.A.(Al) Huebler, GG
Guild Gemologist,
New Mexico Faceters Guild
[reprinted courtesy of the New Mexico Faceters Guild, from The New Mexico Facetor, April, 1992]

When I sell a faceting machine, one of the major questions asked is, "can I make money out of faceting; where can I sell what I cut?" My answer to the first question is, "some can, most don't" The complete answer to this question is contained in another question, "what market are you going to address: Are you really able and determined to take it on?" Gemstone business is no different than any other business. The Creation of the Market, the Business Plan, the Financial Plan, the Advertising Plan, Necessary Education, Seed Money--these aspects all need attention, initially and ongoing.

One factor is negative and must be recognized right up front. Gemstones are a luxury commodity; they are not a necessary staple! Unless you have something very special to offer, business does not come beating on your door. So creating the market is just as important as creating the product. Therefor, one must ask himself, "do I have the energy, motivation, time, and money, to both create the product and market it?" Success usually means that two or more people operate the business; either family or close trusted associates, in order to cover all of the bases. The Small Business Administration says that you must be prepared to support yourself and your business for up to three years, and expect no income over this period. This is the getting started time, getting the "foot in the door", so to speak.

During "down-turn" economic times, it is chancy to start any business. This holds doubly true for a luxury-product operation. Luxury item (fur coats, jewelry, oil paintings, big cars, etc.) demands rise and fall with the national economy. Necessary items have a continuous, generally level demand. The product area is, where amateur faceters are concerned, a "cottage industry". So initial questions must be, "do I expect to make an actual profit, or just make the hobby pay its way?" Do I expect true income from this venture? Am I really going to be an accountable business (with books and suitable accounting services) or just a make-believe moonlighting activity? Do I intend to make money, or do I just want to get my hands on a Sales Tax Number? If it is income that I want, is there not a better way to produce needed return on investment?" Each person must evaluate the questions based upon his knowledge, experience, circumstances, and personal desires. Don't be blinded by the joy of being your own boss, working at home and working in a creative, absorbing field. These are excellent factors if all else is equal! They will put you in the poorhouse if it is not! Lack of business knowledge and initial under-capitalization are the major causes of small business failure!

One of the tests to use on yourself is to ask, "why am I interested in faceting--what was it about it that captured my interest in the first place? Am I willing to forgo all or part of this for money and the natural stress of business?"

This is why, as a machine dealer, I cannot answer with a blanket, resounding,

"yes, you can make money with it." As you see, to do so would be false and misleading guidance just to make a machine sale. In truth, very few hobbies, when given up and the assets liquidated, ever produce a gain. The real profit was in the enjoyment of the hobby by all whom it touched.

So, now having some idea of the realities existent, if you are still bent upon selling your cutting output, let's dig a little deeper.

First, take it easy and slow. Walk before you run, float before you swim. To be a success, you must know a hell of a lot more than your potential customer about this field and the product details. Therefore, you must gain education by every method possible and suck it up morning, noon, and night. Schooling, reading, research, and riding the coat-tails of others is the technique!

It is essential to develop a respected name and reputation for a fine product and open, honest dealings with customers. Reputation comes from training (schooling), teaching, lecturing, hands-on experience, cutting competition results, a positive personality response, demonstration cutting, exhibitting and the holding of Guild offices. Also from what you publish. Be very careful if using two-tier pricing between designers/ goldsmiths and the individual collectors. If not handled right, it will raise questions of your honesty.

Next, who is your potential competition? Up to about 15 or 20 years ago, the manufacturing jewelers in the States, and the isolated silver and goldsmiths, had only two primary sources of gemstones, the poor native-cut stuff from all over the world and the well-cut but rather common materials from a few big operations, mainly in Europe. It is no longer whis way. Cutting is big business now in every corner of the world. Many of the former native cutters are now cutting on modern equipment, most major-source (mining) countries have set up large, subsidized, modern cutting plants, and advanced, automatic cutting machines are kicking out tons of medium quality, calibrated gemstones. Additionally, amateur faceting in numbers of countries (but mainly in the U.S.) are injecting numbers of quality, fancy stones into the commercial trade--stuff that many goldsmiths love. Lastly, luxury synthetics and CZ have captured a lot of what was once the natural-stone domain. So where do you want to compete?

Do you want to limit yourself to non-treated stones from non-treated rough, or take on the legal problems associated with treated material? What, then do you want to cut--top of the line mainstream stones--ruby, emerald, sapphire, fine topaz, or what? Do you want to sell directly to the end-user? If so, how do you beat out the jewelry store and discount operations?

Custom cutting of your own material is the safest approach. You cut something fine, then find a discerning buyer. Both cutting of a customer's material or doing repair work on stones owned by others is very hairy and chancy! The courts are continually full of cases of alleged stone-swapping, stone damage, and other wrong doing! If you are not covered by expensive insurance, you stand to lose all that you and your family have! I will no longer do either of these latter two functions. It is simply just not worth it!

There are two primary sales ways to offer your material-- as barefoot unset gemstones, and as designer-set jewelry items. You may have to do both. Most often, the end-user (the buyer) cannot visualize the beauty and how a stone will look until it is actually set into a jewelry piece. This is a major reason why tourists and the general lay-public do not purchase unset gemstones. Further, they want to wear it now, and not have to go through the hassle of working with a jeweler to create a new piece. Therefor, expensive samples must be made up. Let's first look at an example of the gemstone-only approach.

Coast-To-Coast is an excellent example of a business that sells fine, large, rare stones to individual collectors, and to museums and other institutions. This method also fits the needs of the well-recognized, high-end goldsmiths and custom jewelry designers. But to break into these groups is not easy. Many museums have been, and still are, donated fine mineral specimens and farm this material out for cutting as an eventual adjunct to their collections. You just do the cutting, and they want you to accept other material for your labors. Cash is seldom, if ever, involved in these transactions. Further, one must be a recognized, excellent cutter before he or she ever gets a crack at this sort of work. But once into it, one's name

really becomes known! This usually leads to much paid-for work from other sources (collectors, etc.). Many goldsmiths have no cash flow and want you to place stones with them on consignment. Once they chip a stone, having placed it in a setting, what are you going to get back if the jewelry piece doesn't sell within a reasonable time? To find jewelry makers with money up front is something else--some are also "fly-by-nighters"! Coast-To-Coast has clout and prestige to protect its position. Expertise has gained them entrance into this market and has made much fine, special rough (customer's material) available to them.

So, what about designing and setting (or having set) your stones into finished jewelry pieces? Takes lots of capital. Gold and silver cost money! And, even more important, it takes much design creativeness, and sense of design and fashion, to put gem cutter's products into usable form (useful, beautiful jewelry). Then what happens if your designs are not hot sellers, and you have your stones locked into these pieces? Also, who is going to do the cutting, if you do the jewelry design and construction, or who will do the latter if you are the cutter?

One of the many, well-heeled, large organizations--this time out of Denver--who took on the Yogo Gulch sapphire, failed in just a few years. You have heard of them--Intergem, of the late Eighties. They decided that the way to market the sapphires was to cut them within their organization, design and construct their own line of fine jewelry, and only sell finished goods--as part of their jewelry. This idea did not fly for long. For one thing, they were fighting the treated sapphire industry, which is worldwide. They also did not, apparently, have needed scope and broad-base in their marketing organization and enough sales outlets for the finished jewelry. Another possible problem was that every stage of the way was very labor-intensive. This makes for high pricing. Even getting the sapphires out of the tough host rock, without damage, was time-consuming--this was an igneous dike intruded into limestone. Further, most stones ranged in small sizes. I used to cut for one of many of their predecessors, Sapphire Trading Company. I know! It went down the tubes for similar reasons. The financial problems were beyond belief.

My friend, Ron Schey, in Rubyvale, Queensland, Australia, is a professional sapphire miner, a fine cutter and savvy to the business factors around the field. He visits the large gem shows around Australia, faceting sapphires, as a demo, and selling stones. He also hosts tourist bus tours at his mining claims. Ron has made arrangements for jewelrs in Sydney and Melbourne to set a number of his finished stones in commercial, gold men's and women's rings, and in earrings and pendant mountings, which Ron and his wife, Jan, have selected. Ron, from experience, has determined that the jewelry pieces are what mainly sell to the visiting tourists and also to the show visitors. The cut stones are picked up by the jewelry designers and goldsmiths. Most of his business is with the jewelry. On the side, he also sells rough to the Thai buyers who come to the field. But the big profit is the jewelry!

By dealing only in sapphires, his setting (jewelry) inventory is kept within reasonable financial limits. And by selecting mountings that match up into useful ensembles, he holds his home inventory to around eighty pieces.

Our tourist demand, in Albuquerque and mostly in Santa Fe, is for jewelry pieces. Except, again, to visiting jewelers, designers and goldsmiths, the interest is in the finished jewelry. Most of those that design and set stones buy from the big stone dealers (at the Denver and Denver Sept. Show, back East and at Tucson). So your central New Mexico outlet is mainly one of 'getting in bed' with one or more good, active, worthy goldsmiths and designers. The Fantasy Cuts are of current fashion interest for designer jewelry. These people, when of substance, are hard to find and the competition for their favor is stiff. Good luck! You will usually not be paid up front, but when the jewelry piece sells. Therefor you must work on a written contract, and you must have one hell of a lot of trust and faith in the person(s) you are dealing with! However, with good main-line designers and smiths, their stuff does move.

By the way, often your designer/goldsmith will be on your back to cut some special-shape cabochon for his special idea. Can you do that? He will break a stone now and then. Can you handle the resulting repair job? He will occasionally

need lots of one type of material in a single, calibrated size. Can you provide that, either on your own or by running down a suitable source?

If the opportunity can be developed, the Coastal (West and East) markets cater to the largest groups of affluent people, and fashion interest is most active. Second best is Chicago and the major Texas hubs. Saint Louis, K.C. and Atlanta have much potential. In the realm of the wealthy, Texas is making a come back. So look toward the future as the economic slowdown lets up. I still have, after seven years, many collector contacts in the San Francisco Bay Area--for my special stones. Santa Fe/Albuquerque produces lots of jewelry, but uses numbers of run-of-the-mill commercial stones.

So flip a three-faced coin. Which way are you going to go? Stones only, jewelry with your stones, or some of both? Or, after hearing this, none at all?

My business-card file, and my personal-contact experience, tell me that every ten years I see about 45% of the people involved with selling rough and/or custom-cut stones disappear. So, by the end of twenty years, we have at least a 90% turnover. If this tells you something, you be the judge. Again, maybe there is a better way to make money.

Years ago, when I was working on the side, selling a number of stones, it was to my affluent co-workers and their friends, and by word-of-mouth, to other affluent people in the large West-Coast high-tech world. My General Manager, who I reported to at the time, in a fit of jealousy, asked me once why I did not resign and spend my energy cutting and selling my stones. I told him, "no thanks, because then I would be cut loose from my super self-generating market". That stopped that and he could sayno more, as I was his top Market Engineering Manager and business getter. P.S. I did not get any more promotions until he was replaced. But at that time my sideline gem business had a demand going that was not too shabby! I do not believe that this approach would work out in today's business climate and methodology. And, from this consideration, there is a message: Networking, in your business or where you work, is a good method of making sales contacts. Show off what you produce! However, limit your actual transactions to after-work hours, and away from the plant or office. Jobs are too hard to find now for one to put him- or herself in jeopardy by leading the boss to believe that you are not paying full attention to your job!

So often I hear a comment such as, "I want to add a new bedroom or a third bath to the house, and I have eight faceted stones, that I cut, in my safe depossit box. I've got to get out and sell 'em so that I can get going with this home addition". I heard this type of outburst again just this month, and from a guy that is employed in the commercial repair-cutting field. Yet, my only retort was and is, "Rots of Ruck!". It takes a hell of a lot more to sell loose gemstones than just a wish or a daydream!!

(end)

THE FACETED GEM PAVILION

By Glenn & Martha Vargas

(from TFG Newsletter, October 1993)

The function of the pavilion is to reflect and return light to the crown of a gem. The greatest amount of this light enters the gem through the table. A small amount enters through the crown facets.

Ideally, the light entering through the table should do so at nearly a right angle to the table surface. This is known as rays at normal. Such rays that strike the crown facets (not the table) seldom reach the pavilion facets, thus for this discussion we will ignore them.

It is seldom that all rays strike a table at normal, thus we have to try to make as many not at normal reach the pavilion, in order that they may be returned to the crown and be seen by the viewer. This simply means that the pavilion facets *must* be cut at an angle that will allow the maximum return of light under all conditions. Whenever a gem is tipped so that light enters the table at other than normal, we must ask the question, "How many degrees from normal can we tip a gem?" Herein lies the most important part of faceted gem design.

The crucial part of this question revolves around what is known as a critical angle. This is the angle at which a light ray strikes the pavilion facets, and will not be reflected. Thus, we *must* cut our gems with pavilion angles that will allow the greatest amount of light to be reflected back to the crown. The critical angle is

most important, and pavilion facet angles must be as far from the critical angle as reasonable.

Many faceted gem diagram designers state on the diagram that the angles are calculated for a gem of a refractive index of 1.54 (quartz). The critical angle for this refractive index is 40.2°. It is imperative that the pavilion of a quartz gem be cut at an angle greater than 40.2, and the greater (reasonably) that angle, the more light entering the table will be reflected back to the crown.

When we wrote our book *Faceting For Amateurs*, we pondered this angle at great length. We finally decided that the angle of 43° would be most logical for quartz. We seriously considered that 44° might be better, and felt that it was. At the time (more than twenty years ago) manufactured gem mountings were made for gems with pavilion angles somewhere in the vicinity of 40°. Most mountings did not readily accept gems with a 43° pavilion, and 44° would have been unreasonable. Also, there was the possibility that if we did suggest 44°, the book might not sell!

Today, most jewelry manufacturers produce mountings that will nicely accept gems with a 43° pavilion. To us, this is a delightful situation. However, to our dismay, many designers of facet diagrams are suggesting quartz pavilion angles of 42° and 41°. Yes, these angles will reflect light striking the table at normal, but tipping the gem slightly causes the light to be lost out of the pavilion. We are much dismayed by this trend toward angles close to the critical angle.

Most of the faceted diagram designers use computers to arrive at all angles of the diagram. Evidently this method is very successful. We have been shown by some designers that it is possible to view, on the computer screen, which angles will produce reflected rays, and which angles will not. At that time we decided that there would be few, if any, diagrams with pavilion angles at or near the critical angle. We were very mistaken.

We still see them in many publications. In the July issue of this newsletter there is a diagram for quartz (1.54) with a 42° pavilion angle. Worst of all, in the same issue is a diagram for refractive index 1.61 (tourmaline and topaz) with a pavilion angle of 37°. The critical angle for these materials is 38°. This suggested pavilion angle is one degree below the critical angle--a fisheye that will reflect very few rays of light.

Such a diagram is an injustice to the faceter that wishes to cut it. If the faceter cuts as directed, the gem is sub-standard. If the faceter converts the angle (and angles), it is an unnecessary effort.

We have had the privilege of teaching many people to facet over a forty-five year period. How many students we have had in California, we do not know as we did not keep an account. At the University of Texas, we have taught for more than sixteen years. The number of students there is well over 1000. Our students have cut many types of gem materials with many different types of diagrams. There have been excellent gems to very poor ones. The poor ones were the result of incorrect pavilion angles; we know whereof we speak!

Pay particular attention to the pavilion angles of a gem, the crown angles are not very important. One way to prove this to yourself is to cut two gems (from the same piece of material), one at the correct pavilion angle, the other at an incorrect angle. We have done this, and our students have done it. The difference of only one degree is noticeable; two degrees is greatly noticeable.

We fervently hope that the trend for incorrect angles will cease and diagrams will show correct angles.

(end of article)

Your editor's notes: I agree with the Vargas's about pavilion angles. I discussed quartz pavilion angles with Glenn several years ago at the Castro Valley Show, saying that I considered 43° too low for quartz, and thought that 43.5°, or even 44° was preferable. Among gem materials quartz is one having the widest variation in its refractive index, and while some stones with 43° culet angles look fine, others are near fisheyes.

Where Vargas speaks of getting as far above the critical angle as is reasonable, let me qualify that. Do not cut quartz culet facets higher than 44.5°! That is an arbitrary figure, but you should stay away from 45° and higher for the same reason that you want to stay reasonable above the critical angle--loss of light out the pavilion.

As editor I have received designs submitted for publication with angles such as cited by Mr. Vargas. I send them back to the designer with questions. There has to be a compelling reason for having culet angles below the critical angle. The sacrifice of light return must be compensated for by some desireable feature gained.

I am sorely afraid that some designers do not take their work seriously enough, or are aware that beginners will use their angles without question and cut poor stones.

Other designers are themselves beginners, playing with a toy called "GemCad", perhaps more interested in seeing their name in print than producing something useful to others. In GemCad the default R.I. is 1.54 (quartz); can it be that some designers using GemCad are not paying attention? Computer design programs are valuable tools when used for the right reasons. Used in ignorance they can confuse the scene with garbage. A computer proverb is: "Gargabe in--Garbage out". My prediction is that, contrary to the Vargas's hopes, the trend toward incorrect angles will not cease, but will increase, unless more editors join me in refusing to print them. The only designs with bad angles I will print are those selected for competitions, and I can't do anything about that except warn our readers.

About Pitch Laps -- by FVS

I read with interest an article in The Midwest Faceter, Sept. '93 called **"When All Else Fails"**, about polishing the table of a topaz stone which another cutter had made parallel to the cleavage plane. The writer, Nat Cohen, from Dartmouth, Nova Scotia, had tried everything without success before remembering his telescope mirror polishing experience. Telescope mirrors are commonly polished on a pitch lap, or "tool" as they call it. He used what he called "roofers pitch", softening it with a little beeswax. These are melted slowly in a pot until in fluid condition—about like pancake syrup- and poured into a flat .disk-shaped mold with a lip around it to hold the pitch until it cools.

Back in the '50s I polished at least eight telescope mirrors while making telescopes. I obtained the mirror blanks (kits) from Edmund Scientific; the kits contained enough Canadian Balsam pitch to make the laps for polishing. I think you can still get good clean Canadian Balsam pitch from that company. I don't remember about adding beeswax to soften the lap, but I do remember cold pressing the lap to make it conform to the curvature of the mirror. This has to be done periodically during the polishing stage. Since I was working days, I polished in the evening, then left the mirror sitting on top of the pitch lap overnight, during which time the pitch would creep until it contacted the surface of the mirror evenly all over. I scored the lap with Vee-shaped grooves in straight lines about one inch apart, which divided the lap up like a checkerboard. The grooves were 1/8 inch deep. Polishing was done with a thin slurry of cerium oxide. The grooves drained off the excess slurry so that the glass surface of the mirror contacted the lap's surface instead of hydroplaning.

For a gemstone lap, you can use any stiff base material the same diameter as your other laps. Make a dam around the edge to contain the melted pitch, heat the pitch and pour it into the mold. It should be hot enough to fill the mold and level itself off, but not smoking hot. Be careful! It can catch on fire! It is safer to do it out in the yard somewhere. After it has cooled completely, remove the edging. Nat did not describe how he scored the lap, but he did mention using a thick plate of glass to cold press the lap, taking about 4 hours to do in average temperature. On a warm day it would take maybe half as long. Nat coated his plate glass with aluminum oxide so as to embed it into the pitch. I did not do that, but it should get the polishing action off to a faster start. Nat did claim that he got a beautiful polish on that topaz table facet, so if you run into a similar problem, give the pitch lap a try.

The only thing I disagree with in his article is his attributing the polish to a Bielby layer. Hogwash! If the stone surface even got hot to your touch it would be enough to ruin the lap surface. In polishing a mirror the lap is stationary. You move the mirror by hand back and forth across the lap. No heat worth considering is generated. The same should occur on your faceting machine. Run the lap as slowly as possible or move it by hand. The stone or lap should not even get warm or the lap will deform.

COMING ATTRACTIONS-1994

AFMS Federation Shows: (AFMS divides up the U.S. into 7 areas--designated as Federations. California is the only state that is a Federation unto itself.)

Calif. Federation Show
Del Marr, CA, April 8-10.

Northwest Federation Show
Ogden, Utah, June 3-5.

South-Central & AFMS Combined Show
Houston, Texas, June 23

Eastern Federation Show
Syracuse, NY, July 8-10.

Rocky Mountain Federation Show
Rapid City, SD, July 22-24.

Midwest Federation Show
South Bend IN, Sept 2-4.

SouthEastern Federation Show ?

Other Shows:
Quartzite Pow-Wow Show
Quartzite, AZ, Feb. 2-6
(there are three other shows at Quartzite spanning the month Jan.15-Feb.15. The bulk of swapping and dealing goes on during the week Feb 2 thru 7)

Twelve Shows: Tucson, AZ, Feb. 2-12
The biggest 'flea market' in gems and gem materials in the U.S.

The Northwest Faceters Conference
Sun Valley, ID May 21-22
Hosted by the Intermountain Faceters Guild
We don't have the details for the competition classes at this time, but one of the designs selected is "Sun Valley II" by Carl Unruh, uncomputed of course, for the Masters or Past Masters. If you're in a hurry to get started cutting for this one write Clifford Jackson, PO Box 696, Burley, ID 83318. We'll have details in our March, 1994 newsletter.

(Let's all members of USFG who attend get together for an informal meeting. There will be a sign-in sheet at the arrival desk so we can know where you are staying.)

Clear Lake Gem & Mineral Society

Annual Gem Show, March 12-13, 1994
Open Competition--Two levels: Master and Intermediate. The Master Level design is the MULTIFACETED PEAR by Robert Long, cut in colored or colorless CZ, 12 mm wide. The Intermediate Level is EASY PEAR by Robert Long, also 12 mm wide, cut from quartz, colored or colorless. The MULTIFACETED PEAR can be previewed here in the What's New section. Both designs were printed in the TFG Newsletter, Oct. 1993. To enter send Name, Address, Telephone, and level you desire to enter, to:
Mary-Ruth Rathjen, 15706 Diana Lane, Houston, TX 77062

I hope you noticed we got rid of the jaggies in our cover logo stone. When our name changed it had to be redone and the jaggies crept back in. Sorry about that, folks.

LEAD POISONING

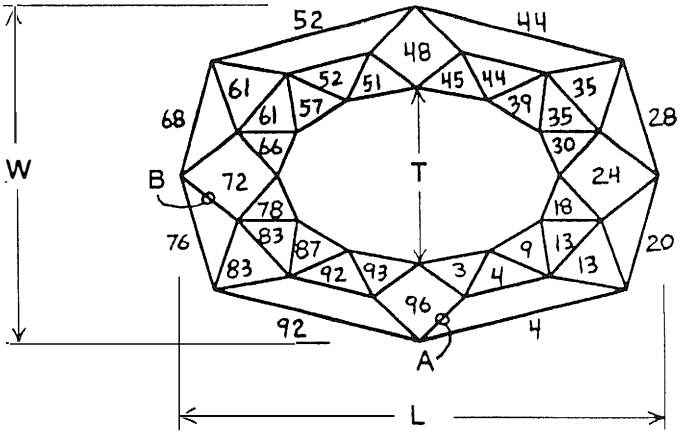
Walter Carss has brought to our attention an article that appeared in FACET TALK, July/August 1993, by John Broadfoot, president of AFG, and a university chemistry lecturer. J.B. cites the presence of lead in many of the laps we polish on. "...Of even greater concern to facetors is the presence of trace amounts of cadmium which is always present in lead and zinc compounds and alloys. This metal is far more poisonous than lead. Once cadmium is absorbed the body has no way of eliminating this element. The biggest source of cadmium is all alloys and compounds containing zinc which incllude zinc oxide (used for some cabachoning), solders, aloys, paints and car tyres. The fine dust produced as tyres wear can be breathed in and enters the bloodstream via the llungs. In conclusion, if you handle anything that you wouldn't eat, wash you hands before you eat!".

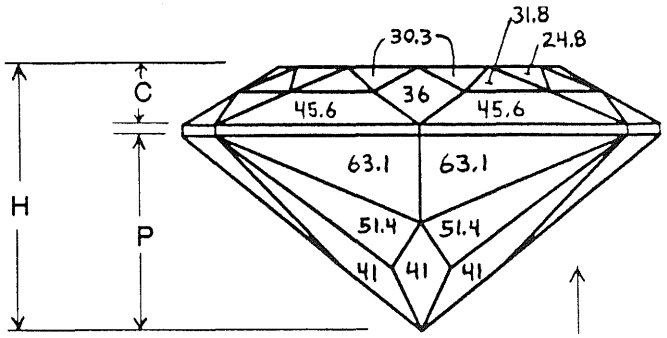
The State Police Department had found a fairsize marijuana plantation. After a long day of pulling and piling the plants, they finally set fire to the pile. The smoke column rose high into the sky. A migrating flock of artic terns came over the horizon and flew right through the column of smoke. It is reliably reported that no tern was left unstoned.
(via The New Mexico Facetor, Nov. '93)

Easyform-3
Gear = 96
Angles for Corundum

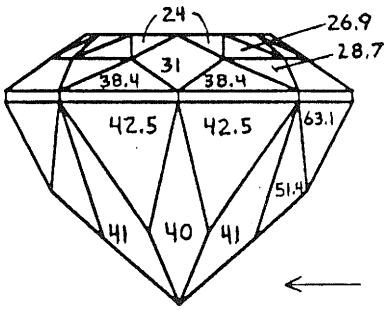
Crown:	Angle	Indices
1.	4 at 45.56°	4,44,52,92.
2.	4 at 38.44°	20,28,68,76.
3.	2 at 36.00°	96,48.
4.	4 at 26.92°	13,35,61,83.
5.	2 at 30.97°	24,72.
6.	4 at 31.77°	4,44,52,92.
7.	4 at 28.73°	13,35,61,83.
8.	4 at 30.31°	3,45,51,93.
9.	4 at 24.76°	9,39,57,87.
10.	4 at 23.98°	18,30,66,78.

L/W = 1.366025
Table = 30.3 %
T/W = .5369
C/W = .1682
P/W = .5735
H/W = .7617
A/W = .21117
B/W = .23024





Cutting Angles in Degrees



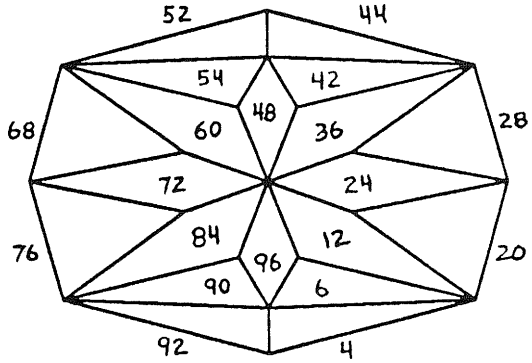
Preform: ALL FACETS AT 90°.
Cut 8 facets at indices
12,20,28,36,60,68,76,84.
From the last points on the ends of each curve, cut 4 at indces 92,4,44,52.

CAM Preform: (optional)
Maximum Cone Angle = 29.8°

1.	4 at 39.01°	92,4,44,52.
2.	4 at 30.67°	20,28,68,76.

Pavilion:

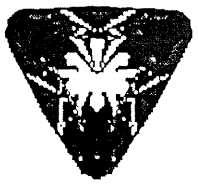
1.	4 at 63.09°	4,44,52,92.
2.	4 at 42.50°	20,28,68,76.
3.	4 at 41.00°	12,36,60,84.
4.	2 at 40.02°	24,72.
5.	4 at 51.41°	6,42,54,90.
6.	2 at 41.00°	96,48.

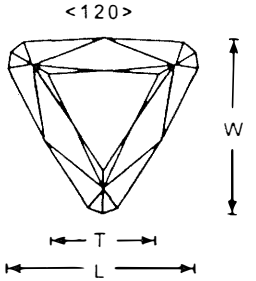


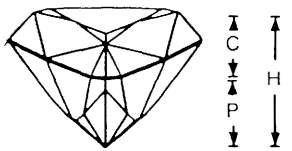
Designed by Fred W. Van Sant 9/8/93

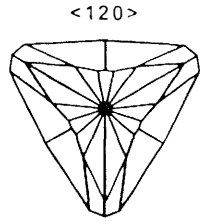
13.082 Bright Triangle #3

This design is indeterminate because the entire center on the pavilion (including the corner breaks) is floating relative to the girdle. Thus the depth is not fixed. The outline itself is determinate IF CROWN IS CUT FIRST. All of the crown facets except the table meet at the corners of an equilateral triangle and a meetpoint for the girdle is formed on the sides. A level girdle then fixes the outline.









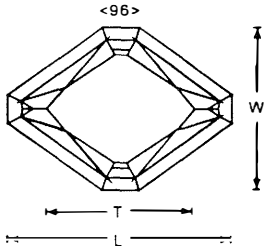
SPOT + Ambient for RI=1.54
Design: 13.082
Table Brt= 59 Avg Brt= 38

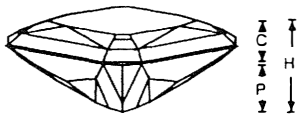
Reference: **Covill, Charles W:** ***Meet Points*, Sep 93, n26p8**

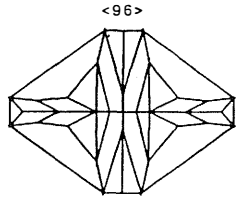
120 Index L/W=1.089 P/W=0.566 C/W=0.191 T/W=0.639
49+12 Facets H/W=0.777 Vol =0.251W³

41.057 Great for Garnet

Indeterminate design. Specifys use of "cheater" to cut the outline. Several facets (both crown and pavilion) are disconnected (floating) relative to the outline so results are not very reproducible.





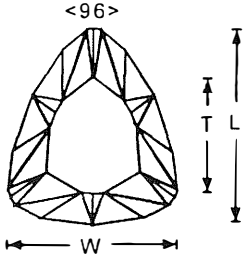


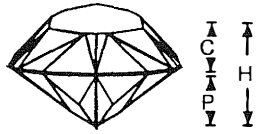
SPOT+Ambient for RI=1.75
Design 41.057
Table Brt=67 Avg Brt=57

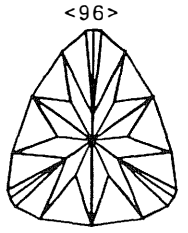
Reference: **Capps, Jerry:** ***Lapidary J*, Sep 93, p60**

96 Index L/W=1.367 P/W=0.440 C/W=0.131 T/W=0.906
59+8 Facets H/W=0.590 Vol =0.237W³

05.083 Pendelite







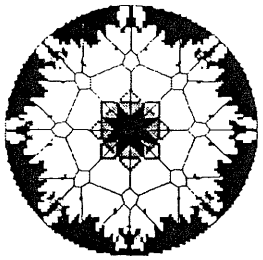
SPOT + Ambient for RI=1.77
Design 05.083
Table Brt=61 Avg Brt=62

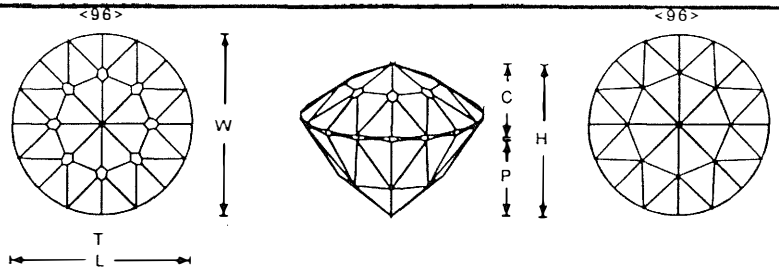
Reference: **Hawes, Ernie: New Mexico Facetor, Sep 93**

96 Index L/W=1.144 P/W=0.436 C/W=0.193 T/W=0.675
61+18 Facets H/W=0.649 Vol =0.232W³

01.249 Ring of Fire Apex (Wood Round #3)

New name for the design that appeared on the patented diamond design published as US Patent 36,103 Aug 15, 1902 (and "Wood Round #3" in *Seattle F Design*, Jan 83). *FACETS* article contains only a sketch of the crown.





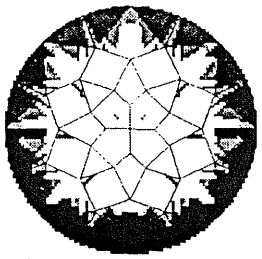
SPOT + Ambient for RI=1.54
Design 01.249
Table Brt=0 Avg Brt=68

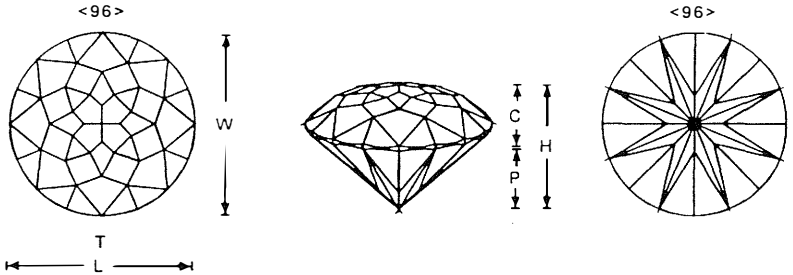
Reference: **McCawley, E & Sparkman, G:** *FACETS*, Sep 93, p8
Wood, St John: ***Official Patent Gazette,* 14 Oct 02, p439**

96 Index L/W=1.000 P/W=0.571 C/W=0.290 T/W=0
72+1 Facets H/W=0.881

01.252 Zircon Rosette Apex (Schenck Round #4)

New name for the Crown that appeared on the patented diamond design previously called "Schenck Round #4" in the "Index to Facet Designs" and based on US Patent 35,937 April 7,1902 which has long since expired. *FACETS* article contains only a sketch of the crown.





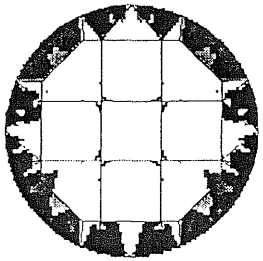
SPOT+Ambient for RI=1.54
Design 01.252
Table Brt=100 Avg Brt=63

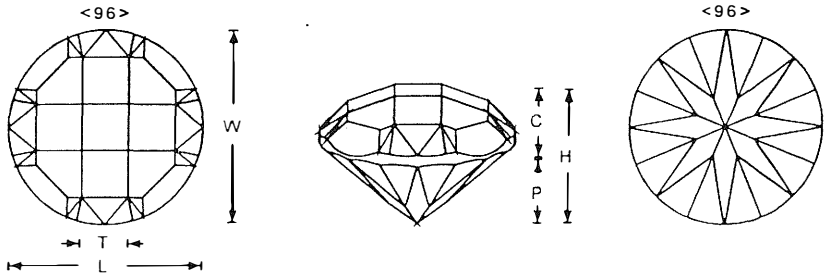
Reference: **McCawley, E & Sparkman, G:** *FACETS*, Sep 93, p3
Schenck, Ernest: ***Official Patent Gazette*, 10 June 1902, pp2537**

96 Index L/W=1.000 P/W=0.470 C/W=0.218 T/W=0
76+1 Facets H/W=0.708

01.504 Checker

Crown was published as US Patent 43,724. *FACETS* reference includes no cutting information just a sketch of the crown. Standard Round Brilliant pavilion added here so that a brightness pattern could be formed.





SPOT+Ambient for RI=1.54
Design 01.504
Table Brt=100 Avg Brt=75

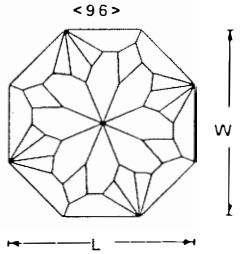
Reference: **McCawley, E & Sparkman, G;** *FACETS*, Sep 93, p8
Schenck, Ernest G.H; US Patent 43,724, April 24,1911

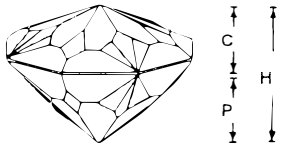
96 Index L/W=1.000 P/W=0.444 C/W=0.289 T/W=0.217
65+1 Facets H/W=0.753 Vol =0.271W³

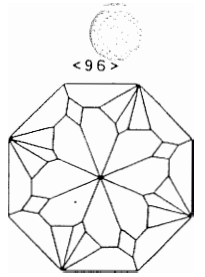
What's New

21.183 Dogwood - BCFG

There are two *axes of symmetry* "54-6" and "42-90". This design is shown as given in the reference with the implied transfer axis "48-96". However, "48-96" is not an *axis of symmetry*. To preclude indexing confusion one of the alternative axes of symmetry should be used as the transfer axis. If your dops will not allow adjusting the transfer axis manually, change the indexing by 6 gear teeth each before you begin to cut.





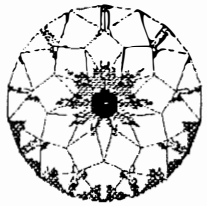


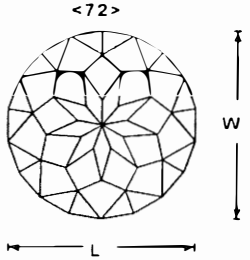
Brightness Pattern
SPOT+Ambient for R=1.54
Table Brt=NA Avg Brt=66

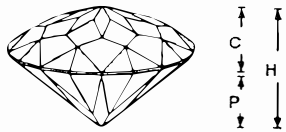
Reference: **Clark, R.E. ; Meet Points, Nov 93, p6**

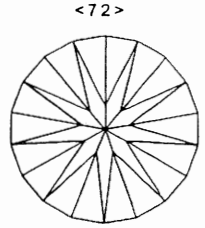
96 Index	L/W=1.000	P/W=0.512	C/W=0.243	T/W=0
64+8 facets	H/W=0.775	Vol =0.260W³		

01.506 Nine Main Adaptation for Cherry Opal







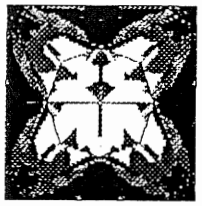


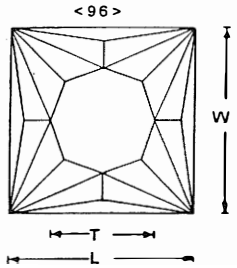
Brightness Pattern
SPOT+Ambient for RI=1.43
Table Brt=NA Avg Brt=87

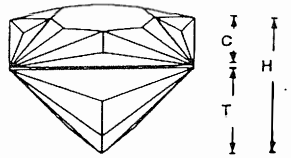
Reference: **Norsworthy, Tom; New Mexico Facetor, Oct 93**

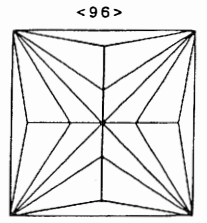
72 Index	L/W=1.015	P/W=0.426	C/W=0.237	T/W=0
72+18 facets	H/W=0.683	Vol =0.208W³		

11.078 Three Step Chevron within a Chevron Square









Brightness Pattern
SPOT+Ambient for RI=1.54
Table Brt=85 Avg Brt=48

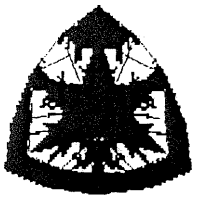
Reference: **Wolkonsky, Alexandre; FACETS, Nov 93**

96 Index	L/W=1.000	P/W=0.603	C/W=0.140	T/W=0.563
41+5 facets	H/W=0.763	Vol =0.341W³		

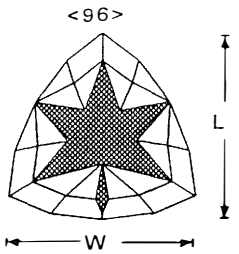
What's New

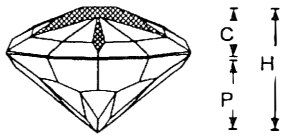
13.084 Maple Leaf #1

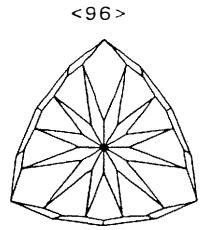
"Brightness" is not important for this design, it is the pattern of lights and darks that is primary. The dark "maple leaf" pattern in the center is achieved by leaving some facets unpolished.



Brightness Diagram
SPOT+Ambient for RI=1.54
Table Brt=0 Avg Brt=25







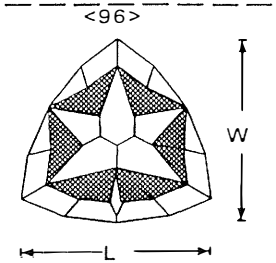
Reference: **Ross, Wilf** **Meet Points, Nov 93, p5**

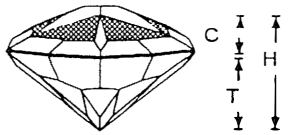
96 Index	L/W=1.005	P/W=0.520	C/W=0.167	T/W=0
66+12 facets	H/W=0.707	Vol =0.236W³		

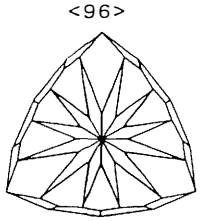
13.085 Maple Leaf #2

"Brightness" is not important for this design, it is the pattern of lights and darks that is primary .The "maple leaf" pattern in the center is achieved by leaving selected facets cut with at least 1200 grit but left unpolished. Except for the selected unpolished facets this design is the same as 13.084.

Brightness Diagram
SPOT+Ambient for RI=1.54
Table Brt=0 Avg Brt=27







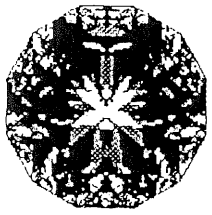
Reference: **Ross, Wilf** ***Meet Points*, Nov 93, p7**

96 Index	L/W=1.005	P/W=0.520	C/W=0.167	T/W=0
66+12 facets	H/W=0.707	Vol =0.218W³		

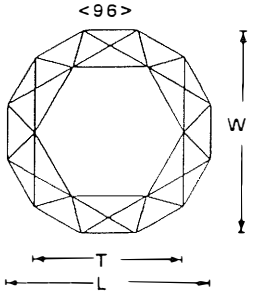
45.070 Lost Maple

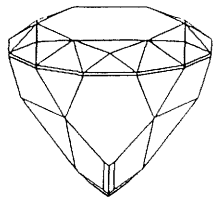
This design is another approach to making the "maple leaf" pattern stand out in the center. Instead of unpolished facets, the dark background is achieved by making the facets so steep that light leaks out the pavilion except where the bright portions are desired.

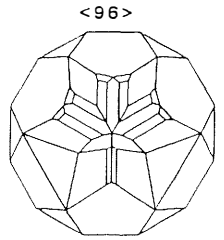
Cut is named after the "Lost Maples" found in the Sabinal River canyon in West Texas. They are a relic from the last Ice Age when Texas was much cooler.



Brightness Diagram
SPOT+Ambient for RI=1.54
Table Brt=28 Avg Brt=31





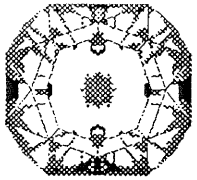


Reference: **Strickland, Robert W** ***North York Faceting Guild*, Nov 93**

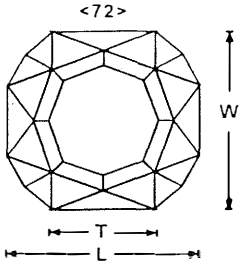
96 Index	L/W=1.000	P/W=0.748	C/W=0.115	T/W=0.732
70+12 facets	H/W=0.884	Vol =0.342W³		

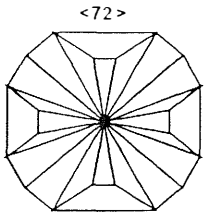
17.022 Easyform-2

Preform for this design is an 18 sided ECED followed by trimming on the sides. Classified as a "Barrel" although it is a very close call on the rounded ends.



Brightness Plot
SPOT+Ambient for RI=1.76
Design 17.022
Table Brt=88 Avg Brt=78



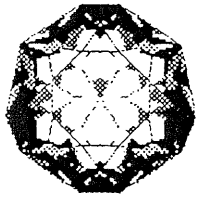


Reference: **Van Sant, Fred W;** ***USFG Newsletter*****, Sep 93, p15**

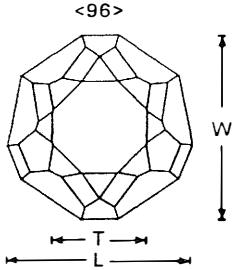
72 Index	L/W=1.085	P/W=0.494	C/W=0.186	T/W=0.619
53+12 facets	H/W=0.700	Vol =0.292W³		

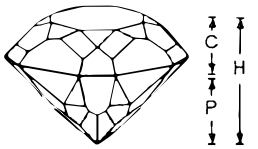
44.063 Prophetu

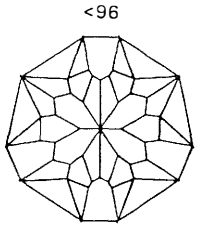
Except for the outline (which is covered by a CAM preform) the design is indeterminate. Central part of the pavilion and crown is "floating".



Brightness Plot
SPOT+Ambient for RI=1.54
Design 44.063
Table Brt=91 Avg Brt=57





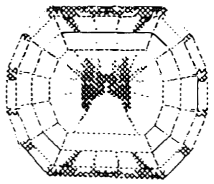


Reference: **Capps, Jerry L; USFG Newsletter, Sep 93, p14**

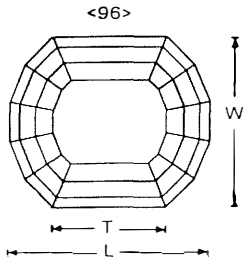
96 Index	L/W=1.000	P/W=0.514	C/W=0.190	T/W=0.510
63+10 facets	H/W=0.725	Vol =0.248W³		

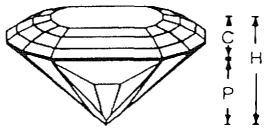
17.023 Semioval

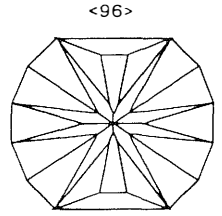
Shape of this design (rounded ends and flat sides) is category 17 Barrel in our Index to Facet Designs. It is called "Barrel" because that was the name GIA gave to the design that was the first entry in that category and it presumably resembled the old style wooden barrels.



Brightness Plot
SPOT+Ambient for RI=1.54
Design 17.023
Table Brt=93 Avg Brt=90





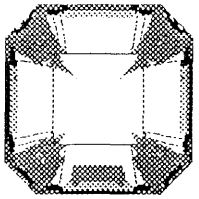


Reference: **Ross, Wilf; N York Faceting Guild, Sep 93**

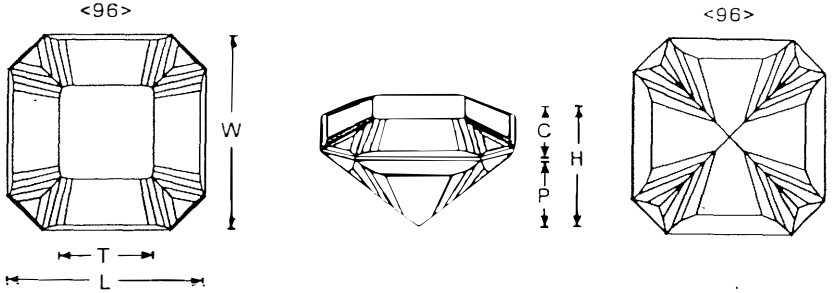
96 Index	L/W=1.180	P/W=0.523	C/W=0 116	T/W=0.669
63+12 facets	H/W=0.658	Vol =0.288W³		

07.101 Veterans of Foreign Wars #5

One of several design Mr Covill has worked up to approximate the appearance of the VFW logo. It uses chevron-like small facets in the corners to simulate the raised metal portions of metal/ceramic pins it is to resemble.



Brightness Plot:
SPOT+Ambient for RI=1.54
Table Brt=97 Avg Brt=75



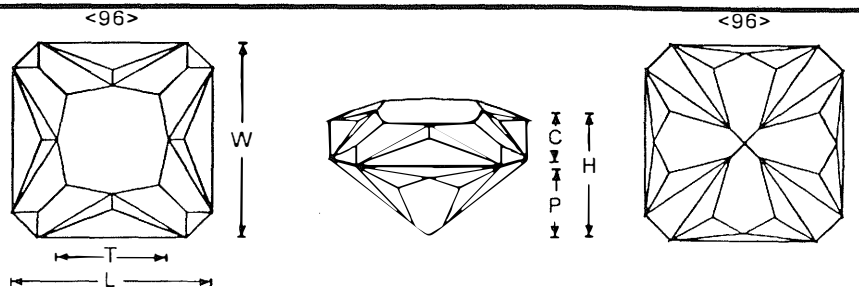
Reference: **Covill, Charles; *New Mexico Facetor*, Jul 93, v12n11**

96 Index	L/W=1.000	P/W=0.480	C/W=0.135	T/W=0.477
93+8 facets	H/W=0.635	Vol =0.254W³		

07.102 Veterans of Foreign Wars #8

Like design 07.101 this one is intended to look like the VFW's logo. In differs mostly in the corner facets.

Brightness Plot:
SPOT+Ambient for RI=1.54
Table Brt=97 Avg Brt=77

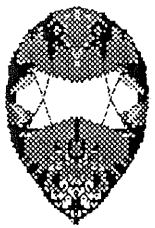


Reference: **Covill, Charles; *New Mexico Facetor*, Aug 93, v12n12**

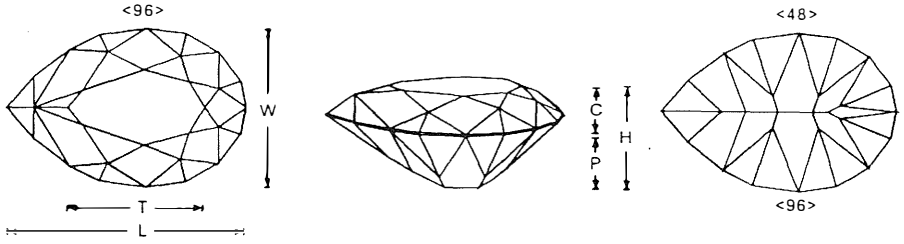
96 Index	L/W=1.000	P/W=0.498	C/W=0.149	T/W=0.553
53+8 facets	H/W=0.666	Vol =0.271W³		

05.084 Seven Main Pear

In the original reference drawing *axis of symmetry* is "24-72" and the stone is flipped on that axis when it is transferred. The effect at transfer time is to retain only 24 and 72 in their original positions . Orientation with the transfer axis horizontal is very important to some facetors who have machines with *keyed vee-dops*. Note all other drawings in this publication assume "48-96" as the transfer and symmetry axis, but we always try to direct the reader's attention to appearance of the stone when directions in the *reference* are followed hence have kept the 24-72 orientation.



Brightness Plot:
SPOT+ Ambient forRI=1.54
Table Brt=68 AvgBrt=49



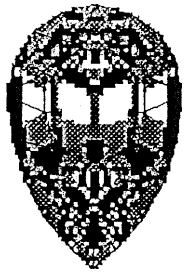
Reference: **Carroll, J.W.; *ANGLES*, Sep 93, p6**

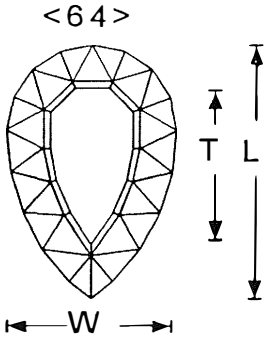
96 Index	L/W=1.498	P/W=0.466	C/W=0.184	T/W=0.857
55+16 facets	H/W=0.671	Vol =0.330W³		

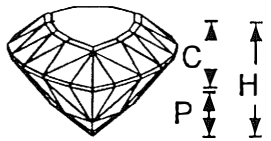
05.058 Multifacet Pear

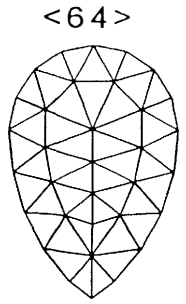
Not really a "new" design, but newly published.

For a long time this design has been carried as "unpublished" in our *L&S Electronic Database* until the Clear Lake Gem & Mineral Society decided to use it as a competition stone and Texas Faceters Guild decided to publish it. Since this is the first time it has actually been published it qualifiys as a "What's New" listing.









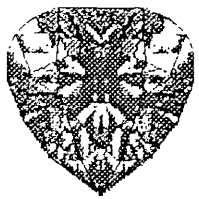
Brightness Pattern
SPOT+Ambient for RI=2.17
Table Brt=47 Avg Brt=38

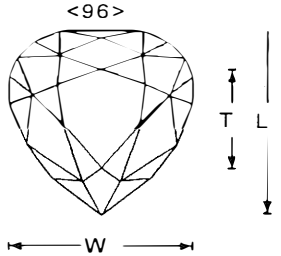
Reference: **Long, Robert H; TFG Newsletter, Oct 93, v14n4p18**

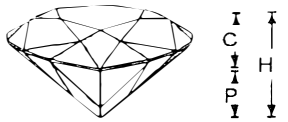
64 Index L/W=1.505 P/W=0.509 C/W=0.237 T/W=0.931
87+18 facets H/W=0.693 Vol =0.373W³

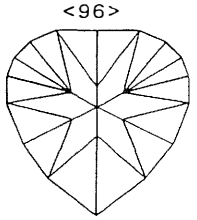
10.037 Tri-Heart

The reference shows two crown versions, this is the "high crown" intended for RI>1.7.









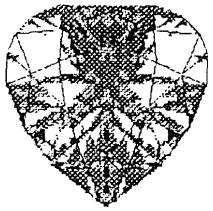
Brightness Pattern
SPOT+Ambient for RI=2.17
Table Brt=55 Avg Brt=57

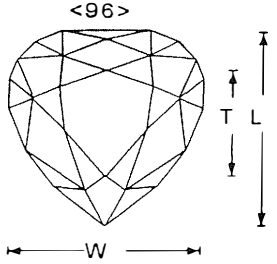
Reference: **Strickland, Robert W; TFG Newsletter, Oct 93, v14n4p23**

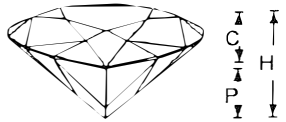
96 Index L/W=1.012 P/W=0.424 C/W=0.153 T/W=0.538
52+15 facets H/W=0.597 Vol =0.190W³

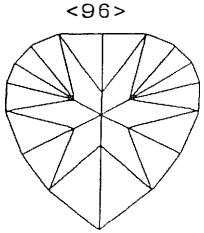
10.037A Tri-Heart

Design 10.037A is the "low crown" version for materials with RI<1.7. Although both 10.037 and 10.037A have identical pavilions, the lower crown version is brightest.









Brightness Pattern
SPOT+Ambient for RI=1.54
Table Brt=64 AvgBrt=64

Reference: **Stickland, Robert W; TFG Newsletter, Oct 93, v14n4p23**

96 Index L/W=1.012 P/W=0.424 C/W=0.124 T/W=0.546
52+15 facets H/W=0.568 Vol =0.176W³

CONSTITUTION OF THE UNITED STATES FACETERS GUILD
(revised November 1993)

ARTICLE I - NAME

The name of this organization is United States Faceters Guild, aka USFG.

ARTICLE II - PURPOSE

The purposes of the USFG are as follows:

1. To promote the art, skill, and teaching of faceting.
2. To expand the knowledge of natural and man-made crystals.
3. To develop and promote uniform rules for faceting competitions within the U.S.A. and among other countries.
4. To sponsor or assist in managing competitions.
5. To serve as a national repository and clearing-house for faceting designs, published materials, and general information for faceters everywhere.

ARTICLE III - SCOPE

1. Members of the USFG, while carrying out USFG duties, shall not act contrary to the stated purposes in Article II.

ARTICLE IIIA - DEFINITIONS

1. The following definitions are for clarification only. They have no legal or binding effect upon any other parts of this Constitution.
2. A Newsletter Month is any month the newsletter is scheduled to be issued. Until changed by the board, newsletter months are March, June, September, and December, for four issues per year.
3. The Member Start-Date is the date membership begins after payment of dues. It applies to all types of membership. It is tied to the schedule for the issuance of the newsletter, and is the First Day of the next Newsletter Month following payment of dues.
4. Open Meeting refers to the continuous exchange of motions, seconding of motions, ballots and results, carried on through the USFG newsletter and through the mails.
5. The term "he" used hereinafter, may also mean "she".

ARTICLE IV - MEMBERSHIP

1. Any person age nine (9) or over, who has applied for membership will, upon payment of dues and being duly recorded on the membership roll of the USFG by the Membership Chairman, become a member of USFG. Membership in USFG is open to residents of all countries.

2. Should the attitude or conduct of any member be such as to be considered detrimental to the welfare of the USFG, such member may be expelled by a majority vote of the Board of Directors, hereinafter referred to as the Board. Before such action shall be taken, a written notice shall be given to the member to appear before the Board at a time and place to be designated, and to show cause why such action should not be taken. Such member has the right of appeal at the next membership meeting.

3. Members from the ages of nine (9) to eightteen (18) shall be classified as Junior Members.

ARTICLE V - OFFICERS

1. The elected officers shall be: President, Vice-President, Secretary, Treasurer, Editor, Sponsorship Chairman, Librarian, Historian, Membership Chairman, Competition & Rules Chairman, and any other Chairman deemed necessary by the Board.
2. The Board of Directors may, at its discretion, combine two or more offices into one office, or separate combined offices, or allow one person to hold more than one office. However, in no case may the combining or separation of offices result in an officer losing the position he is holding at the time.
3. All elected officers shall be elected by mail ballot, and shall serve for a period of two years, or until their successors have taken over their duties. The president, with approval of the board, shall appoint a member to fill any vacancy in any office as soon as posible. The Board of Directors, also called the Board, shall consist of all current elected officers plus the immediate past-president.
4. Elected officers shall take office on January 1 of even-numbered years.

ARTICLE VI - DUTIES OF OFFICERS

1. The president shall be the Chairman of the Board for the purpose of conducting Board meetings.
2. In addition to the elected officers, there shall be apppointed by the President, with the approval of the Board, such Chairmen and Committees as the majority of the Board shall deem necessary.
3. The president shall preside at all meetings of USFG. He shall appoint all standing and special committees, with the approval of the Board. The president's signature shall be necessary on all warrants in excess of $100. drawn by the Treasurer.
4. The Vice-President shall assist the President and shall act for and in the place of the President at his/her request or during his/her absence.
5. The AFMS Coordinator shall attend only such meetings as directed by the Board, and carry on all necessary correspondence connected to such meetings. He shall, when requested by the board, report to them the results of his correspondence.

6. The Competition Chairman shall also be in charge of Competition Rules, and the interpretation of them. Changes in USFG Rules shall be made by a three-person committee, of which the Competition Chairman will be one; the other two shall be appointed by the President.

7. The Secretary shall keep an accurate account of the proceedings of meetings, and attend to routine correspondence. Access to all records shall be available at any reasonable time to members, but only in the presence of two or more members of the Board.

8. The Treasurer shall receive all dues and other monies paid to USFG and give a receipt therefor. The Treasurer shall issue warrants on the Treasury for such bills as are authorized by the Board, and shall keep a full and accurate account of financial transactions.

9. The Editor shall issue the official publication of USFG.

ARTICLE VII - DUTIES OF THE BOARD OF DIRECTORS

1. The Board shall meet from time to time upon call of the president.

2. For the purpose of meetings, a majority of the Board shall constitute a quorum.

3. The Board will authorize and approve all expenditures over $100.00 made for the benefit of the USFG.

4. Regular business shall be handled by the Board at its meeting, the minutes of which shall be kept by the Secretary and published in the bulletin.

ARTICLE VIII - MEMBERSHIP DUES

1. Annual dues for individual adult members shall be voted on by the membership.

2. For a husband-wife couple the annual dues shall be an additional $5.00

3. For a junior member, annual dues shall be half the amount of the regular dues. Annual dues for Canadian members shall be one dollar extra. Annual dues for overseas members shall be four dollars extra.

4. Annual dues may be paid at any time. Membership will begin on the first day of the next Newsletter Month following receipt of dues by the Treasurer.

ARTICLE IX - PARLIAMENTARY AUTHORITY

1. All meetings shall be conducted in an orderly manner. In the event of a dispute, Roberts' Rules of Order; Revised, shall apply.

ARTICLE X - COMMITTEES

1. Nominating Committee. The president shall appoint a Nominating Committee to present a list of candidates for elective offices to be nominated at the first regular meeting of the year. In addition to the candidates proposed by the Nominating Committee the president shall call for nominations from the floor. No nominations shall be made from the floor without the personal oral or written consent of the person nominated.

Nominations may also be conducted through the newsletter, dates and procedures to be determined.

2. Auditing Committee. The president shall appoint an Auditing Committee, which shall examine the financial records of the USFG at the end of each calendar year, and issue a summarizing statement, to be printed in the following bulletin.

3. General Committees. In addition to any appointive officers heretofore mentioned, the president, with the consent of the Board, may appoint any necessary committees, naming the Chairman and members thereof, and may dissolve such appointed committees.

ARTICLE XI - MEETINGS

1. In addition to meetings called by the president, there shall be a Continuous Open Meeting by mail. Proposals may be made by any member. Upon seconding by a second member it shall be placed in the following newsletter for general comment. After being published it will be voted on in the next newsletter. The proposer may make minor changes before its second publishing.

2. Proposals submitted with two member's signatures will be considered as seconded.

3. All proposals will be mailed or handed to the Editor for publication.

ARTICLE XII - AMENDMENTS

This Constitution may be amended as follows:

1. By presenting an amendment in writing, signed by five (5) members, at any regular meeting of the Board, and approved by a majority of the Board.

2. By a majority of votes upon an amendment, cast by the membership following publication of such amendment in a ballot accompanying the bulletin stating the proposed revision.